

WHAT IS CLAIMED IS:

1. A silent chain power transmitting apparatus comprising sprocket wheels and a silent chain having a plurality of link plates, each link plate having a pair of teeth, each of teeth having an inside flank and an outside flank, the link plates being connected to each other through connecting pins so as to form the silent chain in endless, and the sprocket wheel having a predetermined number of teeth meshed with the teeth of the silent chain,

wherein each of the inside flank and the outside flank is profiled by a circular shape of a same radius of curvature whose individual center of curvature is on a pitch line of the silent chain, and each of the teeth of the sprocket wheel is profiled by the circular shape of the same radius of curvature of the inside flank and the outside flank of the link plate.

2. The silent chain power transmitting apparatus according to claim 1, wherein a radius of curvature of a circular shape of a concave portion formed between adjacent teeth of the sprocket wheel is different from the radius of curvature of the circular shape of the tooth formed between the adjacent inside flank and outside flank of the link plate.

3. The silent chain power transmitting apparatus according to claim 1, wherein the sprocket wheel and the link plates are composed of one of a steel, a sintered metal, an iron, a ferrous alloy, nonferrous alloy, and

nonmetal such as a plastic.

4. A silent chain power transmitting apparatus according to claim 1, wherein each of the teeth of the sprocket wheel
5 is profiled by the circular shape of a radius of curvature which is within a manufacturing error over zero to 5% of the radius of curvature of each of the inside flank and the outside flank.